



# ADAPTIVE THERMAL CONTROL OF LITHOGRAPHIC CHEMICAL PROCESSES

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

[0001] The present invention generally relates to lithographic systems and apparatuses and lithographic exposure processes.

### 2. Description of the Related Art

[0002] The term "patterning means" as will be employed herein should be broadly interpreted to refer to means that can be used to endow an incoming radiation beam with a patterned cross-section, corresponding to a pattern that is to be created in a target portion of the substrate. The term "light valve" may also be used in this context. Generally, the pattern will correspond to a particular functional layer in a device being created in the target portion, such as an integrated circuit or other device (see below).

Examples of such patterning means include:

[0003] (a) *a mask*: the concept of a mask is well known in lithography, and it includes mask types such as binary, alternating phase-shift, and attenuated phase-shift, as well as various hybrid mask types. Placement of such a mask in the radiation beam causes selective transmission (in the case of a transmissive mask) or reflection (in the case of a reflective mask) of the radiation impinging on the mask, according to the pattern on the mask. In the case of a mask, the support